

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Lam, et al.  
Serial No. : 09/914,543  
Filed : January 17, 2002  
Title : ENDOGLUCANASES

Art Unit : 1632  
Examiner : Unknown

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Commissioner for Patents  
P.O. Box 2327  
Arlington, VA 22202

INFORMATION DISCLOSURE STATEMENT

Sir:

Enclosed for filing in the above-referenced patent application is a Form PTO-1449, being submitted prior to the first Office Action on the merits. Applicants respectfully request consideration of the remarks and references set forth herein.

The following documents are enclosed herewith:

- copy of Form PTO-1449
- Postcard
- copies of cited references

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 2327, Arlington, VA 22202.

OCTOBER 10, 2002  
Date of Deposit

Susan Semnich  
Signature

SUSAN SEMNICH  
Typed or Printed Name of Person Signing Certificate

**REMARKS**

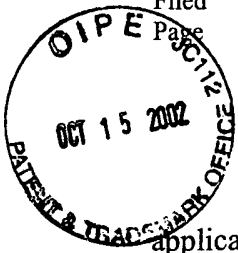
The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 06-1050. If necessary, please deduct any necessary additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Applicant : Lam, et al.  
Serial No. : 09/914,543  
Filed : January 17, 2002  
Page : 3

Attorney's Docket No.: 09010-007US1



If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858 678 5070.

Respectfully submitted,

Date:

Oct. 10, 2002

A handwritten signature in black ink, appearing to read "Gregory P. Einhorn".

Gregory P. Einhorn  
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Substitute Form PTO-1449 (Modified) OCT 15 2002 INFORMATION DISCLOSURE STATEMENT by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office		Attorney's Docket No. 09010-007US1	Application No. 09/914,543
	Applicant Lam, et al.			
	Filing Date January 17, 2002		Group Art Unit 1632	

## U.S. Patent Documents

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	4,487,833	12/11/84	Donahoe			
	AB	5,393,670	2/28/95	Knowles et al.			
	AC	5,723,328	3/3/98	Dalboege et al.			
	AD	5,817,499	10/8/98	Dalboge et al.			
	AE	5,789,226	8/4/98	Lam et al.			
	AF	5,536,655	7/16/96	Thomas et al.			
	AG	5,475,101	12/12/95	Ward et al.			
	AH	5,643,791	7/1/97	Warren et al.			
	AI						
	AJ						
	AK						

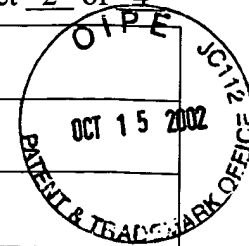
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## Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL	WO 95/20047	7/27/95	WIPO				
	AM	WO 97/25417	7/17/97	WIPO				
	AN	WO 98/24799	6/11/98	WIPO				
	AO	EP 0 687 732	12/20/95	EPO				
	AP	EP 0 606 008	7/13/94	EPO				
	AQ	JP 09 173077	7/8/97	Japan				
	AR	EP 0 648 843	4/19/95	EPO				
	AS	DE 42 04 476	8/20/92	Germany				
	AT	JP 02 276578	11/13/90	Japan				
	AU	WO 98/33895	8/6/98	WIPO				
	AV	WO 97/20918	6/12/97	WIPO				
	AW	WO 96/02551	2/1/96	WIPO				
	AX	WO 95/02043	1/19/95	WIPO				

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Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AY							

### Other Documents (include Author, Title, Date, and Place of Publication)

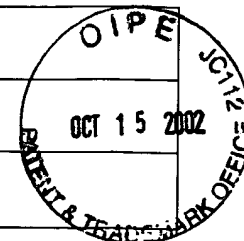
Examiner Initial	Desig. ID	Document
	AZ	Baba, T., et al., "IDENTIFICATION AND CHARACTERIZATION OF CLUSTERED GENES FOR THERMOSTABLE XYLAN-DEGRADING ENZYMES, BETA-XYLOSIDASE AND XYLANASE, OF BACILLUS STEAROTHERMOPHILUS 21" <i>Applied and Environmental Microbiology</i> , U.S. Washington, D.C., vol. 60., no. 7, July 1, 1994 (pp. 2252-2258)
	AAA	Dean, R.C., "MECHANISMS OF WOOD DIGESTION IN THE SHIPWORM BANKIA-GOULDII ENZYME DEGRADATION OF CELLULOSES HEMI CELLULOSES AND WOOD CELL WALLS", <i>Database Accession No. PREV198069003408 XP002159358</i> (Abstract) and <i>Biological Bulletin</i> (Woods Hole), vol. 155, no. 2, 1978 (pp. 297-316)
	ABB	Lao et al., "DNA SEQUENCES OF THREE BETA-1,4 ENDOGLUCANASE GENES FROM THERMOMONOSPORA FUSCA", XP002094152 <i>Journal of Bacteriology</i> , vol. 173, June 1, 1991 (pp. 3397-3407)
	ACC	Lin, E.S., et al., "THERMOMONOSPORA FUSCA BETA-1,4-ENDOGLUCANASE PRECURSOR (E4) GENE, COMPLETE CDS", Accession L20093, XP002159359 July 8, 1993 (pp. 70-469)
	ADD	Jung et al., "DNA SEQUENCES AND EXPRESSION IN STREPTOMYCES LIVIDANS OF AN EXOGLUCANASE GENE AND AN ENDOGLUCANASE GENE FROM THERMOMONOSPORA FUSCA, Accession P26221-XP002159360-May-1, 1992, pp. 6-864)
	AEE	Milward-Sadler Sarah J. et al., "NOVEL CELLULOSE-BINDING DOMAINS, NodB HOMOLOGUES AND CONSERVED MODULAR ARCHITECTURE IN XYLANASES FROM THE AEROBIC SOIL BACTERIA PSEUDOMONAS FLUORESCENS SUBSP. CELLULOSA AND CELLVIBRIO MIXTUS", <i>Biochemical Journal</i> vol. 312, no. 1, 1995 (pp. 39-48)
	AFF	Clarke, J.H., "P. FLUORESCENS SSP. CELLULOSA GENE FOR ENDO-BETA-1,4-XYLANASE", Accession Z48928, XP002159361, March 30, 1995 (pp. 982-1604)
	AGG	Millward-Sadler S.J. et al., "ENDO-BETA-1,4-XYLANASE PRECURSOR (EC 3.2.1.8) (ENDO-1,4-BETA XYLANASE)", Accession No. Q59765 XP002159362 November 1, 1996 (pp. 298-580)
	AHH	Hall J. et al., "THE NON-CATALYTIC CELLULOSE-BINDING DOMAIN OF A NOVEL CELLULASE FROM PSEUDOMONAS FLUORESCENS SUBSP. CELLULOSE IS IMPORTANT FOR THE EFFICIENT HYDROLYSIS OF A VICEL", <i>Biochemical Journal</i> , G.B., Portland Press, London, Vol. 309, No. part 3, August 1, 1995 (pp. 749-756)
	AII	Hall, J., et al., "P. FLUORESCENS CELE GEN", Accession No. X86798, XP002159363, May 11, 1995 (pp. 1159-1831)
	AJJ	Hall, J., et al., "ENDO-1,4-BETA-GLUCANASE (EC 3.2.1.4) (CELLULASE) (ENDOGLUCANASE) (CARBOXYLMETHYL CELLULASE)", Accession No. Q59665, XP002159364 November 1, 1996 (pp. 6-565)
	AKK	Waterbury J.B. et al., "A CELLULOLYTIC NITROGEN FIXING BACTERIUM CULTURED FROM THE GLAND OF DESHAYES IN SHIPWORMS BIVALVIA TEREDINIDAE", Database Accession No. PREV198477059970, XP002159365 (Abstract) and <i>Science</i> (Washington, DC) Vol. 221, No. 4618, 1983 (pp. 1401-1403)

Examiner Signature

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Substitute Form PTO-1449 (Modified)  <b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)  (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 09010-007US1	Application No. 09/914,543
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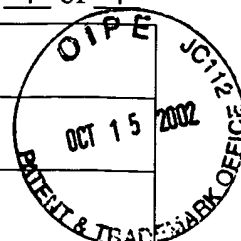


### Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	ALL	Watanabe et al., "PROLINE RESIDUES RESPONSIBLE FOR THERMOSTABILITY OCCUR WITH HIGH FREQUENCY IN THE LOOP REGIONS OF AN EXTREMELY THERMOSTABLE OLIGO-1 6-GLUCOSIDASE FROM BACILLUS-THERMOGLUCOSIDASIUS KP 1006", <i>Journal of Biological Chemistry</i> , vol. 266, no. 36, 1991 (pp. 24287-24294)
	AMM	King Michael et al., "THERMOSTABLE ALPHA-GALACTOSIDASE FROM THERMOTOGA NEAPOLITANA: CLONING SEQUENCING AND EXPRESSION", <i>FEMS Microbiology Letters</i> , Vol. 163, No. 1, June 1, 1998 (pp. 37-42)
	ANN	King, M.R. et al., "ALPHA-1,6-GALACTOSIDASE (EC 3.2.1.22)", Accession No. Q9R7H1, XP002159366 (May 1, 2000) (pp. 68-618)
	AOO	King M.R. et al., "THERMOTOGA NEAPOLITANA ALPHA-1,6-GALACTOSIDASE (ag1A) GENE, COMPLETE CDS", Accession No. AF011400, XP002159367, June 19, 1998 (pp. 1-1716)
	APP	Moore, J.B., et al., "THERMOTOGA MARITIMA BETA-GALACTOSIDASE (LACZ) GENE, COMPLETE CDS, AND ATP-DEPENDENT OLIGOPEPTIDE TRANSPORT PROTEIN D GENE, PARTIAL CDS", Accession No. UO8186, XP002159368, April 18, 1994 (pp. 2-962)
	AQQ	Parker, et al., "THERMOTOGA NEOPOLITANA manB GENE", Accession No. Y17981, XP002159369, September 30, 1999
	ARR	Hayden et al., "SEC-INDEPENDENT PROTEIN TRANSLOCASE PROTEIN TATE", Accession No. P25895, XP002159370, May 1, 1992 (pp. 5-59)
	ASS	Voorhorst Wilfried G.B. et al., "CHARACTERIZATION OF THE CELB GENE CODING FOR BETA-GLUCOSIDASE FROM THE HYPERHTERMOPHILIC ARCHAEON PYROCOCCUS FURIOSUS AND ITS EXPRESSION AND SITE-DIRECTED MUTATION IN ESCHERICHIA COLI", <i>Journal of Bacteriology</i> , Vol. 177, No. 24, 1994 (pp. 7105-7111)
	ATT	Voorhorst W.G. et al., "PYROCOCCUS FURIOSUS BETA-GLUCOSIDASE (celB)-GENE, COMPLETE CDS; ADH-1AM OPERON, COMPLETE SEQUENCE; BIOTIN LIGASE BIRA HOMOLOG (BIRA) GENE, COMPLETE CDS; AND -POSPHOGLYCERATE KINASE (PGK) GENE, PARTIAL CDS", Accession No. AFO13169, XP002159371 July 7, 1998 (pp. 1624-729)
	AUU	Voorhorst, et al., "BETA-GLUCOSIDASE", Accession No. Q51723, XP002159372, November 1, 1996 (November 1, 1996 (pp. 1-478)
	AVV	Tachibana Yoshihisa et al., "CLONING AND EXPRESSION OF THE ALPHA-AMYLASE GENE FROM THE HYPERTHERMOPHILIC ARCHAEON PYROCOCCUS SP. KOD1, AND CHARACTERIZATION OF THE ENZYME", <i>Journal of Fermentation and Bioengineering</i> , Vol. 82, No. 3, 1996 (pp. 224-232)
	AWW	Nelson K.E. et al., "THERMOTOGA MARITIMA SECTION 125 OF 136 OF THE COMPLETE GENOME", Accession No. AE001813, XP002159373, June 4, 1999
	AXX	Wang W., et al., "NUCLEOTIDE SEQUENCE OF THE celA GENE ENCODING A CELLODESTRINASE OF RUMINOCOCCUS FLAVEFACIENS FORMAL DRAWINGS-1", Accession No. P16169, XP002159374, April 1, 1990 (pp. 17-287)
	AYY	Nelson K.E., et al., "THERMOTOGA MARITIMA SECTION 134 OF 136 OF THE COMPLETE GENOME", Accession No. AE001822, XP002159375, June 4, 1999
	AZZ	Yoshihisa et al., "ALPHA-MANNOSIDASE (EC 3.2.1.24) (ALPHA-D MANNOSIDE MANNOHYDROLASE), Accession No. P22855, XP-002159376, August 1, 1991 (pp. 9-946)
	AAAA	Nelson K.E. et al., "THERMOTOGA MARITIMA SECTION 6 OF 136 OF THE COMPLETE GENOME", Accession No. AE001694, XP-002159377, June 4, 1999 (pp. 4969-8305)

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	ABBB	Yernool D.A. et al., "THERMOTOGA NEAPOLITANA MANNOSIDASE (manA), XYLOSIDASE (xloaA), AND ACETYLE XYLAN ESTERASE (axeA) GENES, COMPLETE CDS", Accession No. U58632, XP002159378, June 21, 1996
	ACCC	Breves et al., "T-BROCKII CGLF, CGLG, XGLS, AND CTLT GENES", Accession No. Z56279, XP002159379, October 13, 1995
	ADDD	Gilbert H.J., "P-FLUORESCENS celD GENE FOR 1,4-B-D-GLUCAN GLUCOHYDROLASE", Accession No. X65527, XP002159380, May 5, 1992
	AEEE	Svitil A.L. et al., "VIBRIO HARVEYI CHITINASE A (CHIA) GENE, COMPLETE CDS", Accession No. U81496, XP002159381, January 5, 1997
	AFFF	Ramesh et al., "CELLULYTIC ACTIVITY OF 1-13 LUMINOUS BACTERIA", <i>Mircen Journal of Applied Microbiology and Biotechnology</i> , Vol 4, No. 2, 1988 (pp, 227-230)
	AGGG	Dakhova O.N. et al., "CLONING AND EXPRESSION IN <i>ESCHERICHIA COLI</i> OF THERMOTOGA NEAPOLITANA GENES CLONING FOR ENZYMES OF CARBOHYDRATE SUBSTRATE DEGRADATION", <i>Biochemical and Biophysical Research Communications</i> , Vol. 194, No. 3, August 16, 1993, pp. 1359-1364
	AHHH	Creuzet et al., "Biochemie 65:149-156
	AIII	Huber, et al., "THERMOTOGA MARTIMA SP. NOV. REPRESENTS A NEW GENUS OF UNIQUE EXTREMELY THERMOPHILIC EUBACTERIA GROWING UP TO 90°C", <i>Archives of Microbiology</i> , 1986 144:324-333
	AJJJ	Coughlan, Michael P., "THE PROPERTIES OF FUNGAL AND BACTERIAL CELLULASES WITH COMMENT ON THEIR PRODUCTION AND APPLICATION", <i>Biotechnology and Genetic Engineering Reviews</i> , Vol, 3, September 1985, (pp. 39-109)
	AKKK	Gough et al., <i>Gene</i> 89:53-59
	ALLL	Bragger et al., <i>Appl Microbiol. Biotechnol.</i> 31:556-561
	AMMM	Honda et al., <i>Appl. Microbiol. Biotechnol.</i> 29:264-268
	ANNN	Mladenovska et al., <i>Arch. Microbiol.</i> 163:223-230
	AOOO	Matthews et al., <i>Analytical Biochemistry</i> 169:1-25 (1988)
	APPP	Bronnenmeier et al., Purification of Thermotoga maritima enzymes for the degradation of cellulosic materials. <i>Applied and Environmental Microbiology</i> , April 1995, vol. 61, no. 4, pp. 1399-1407
	AQQQ	Bok et al., Cloning and characterization of an endoglucanase and a xylanase from the hyperthermophilic eubacterium, Thermotoga maritima. Abstracts of the General Meeting of the American Society for Microbiology, 1992, vol. 92, page 312
	ARRR	Liebl et al., Analysis of a Thermotoga maritima DNA fragment encoding two similar thermostable cellulases. CelA and CelB, and characterization of the recombinant enzymes. <i>Microbiology</i> . 15 May 1996, Vol. 142, pp. 2533-2542

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